Biographical Information
for
Cheng-Kong (C.K.) Chou

Fission Energy and Systems Safety Program

Dr. Chou Ph.D., P.E., since February 1999, has been on loan to the Department of Energy, as a Special Assistant to the Directors of the Office of Civilian Radioactive Waste Management, Office of Arms Control and Nonproliferation and Office of Nuclear Energy, Science and Technology. He is responsible to coordinate International backend nuclear fuel cycle issues. Dr. Chou has more than 28 years of work experience in the nuclear energy field.

Dr. Chou received his Ph.D., in Engineering Mechanics in 1975 from Michigan State University, his MS in Structural Engineering in 1966 from Michigan State University and his BS in Hydraulics Engineering in 1961 from the National Taiwan University.

Bechtel Power Corporation

During the early stage of his nuclear career, he spent six years with Bechtel Power Corporation where he was involved with the Pressurized Water Reactor (PWR) high-energy system, piping, and structural design program. As supervisor for the containment internal design for Westinghouse, Combustion Engineer, and B&W plants, he was responsible for Mark I Boiling Water Reactor (BWR) containment thermal hydraulic scientific and safety issues resolution for the U.S. Mark I owners' group. This activity also involved a few BWR Mark I plants in Japan. He was also the containment supervisor for the BWR Mark II/III.

Lawrence Livermore National Laboratory

In 1978, Dr. Chou joined LLNL. He was the leader for the Seismic Safety Margins Research Program sponsored by the U.S. Nuclear Regulatory Commission (NRC) to perform a probabilistic risk assessment (PRA) to evaluate the entire nuclear power plant. This was the first PRA methodology developed to analyze an external event at a nuclear plant. In 1982, he was responsible for nuclear power plant piping research involving fracture mechanics assessment. The research results lead to the modification of General Criteria #4 of the U.S. Code of Federal Regulations, Title 10, Part 50 (10 CFR Part 50), which decoupled LOCA and SSE, and established leak-before-break criteria for high-energy system design. In 1985, he was responsible for the transportation modal study for NRC to assess the adequacy of transportation packaging when subjected to real-world accidents. This study involved research in criticality, shielding, and containment failure, and radiation leakage of a package when subjected to impact and fire loads. In 1987, he was responsible for establishing technical requirements for air shipment of plutonium for NRC.

In 1991, Dr. Chou was appointed Deputy Associate Director and Head of the Fission Energy and Systems Safety Program (FESSP). FESSP is a $50-60 million dollar/year research program responsible for nuclear fuel cycle activity at LLNL in supporting the U.S. NRC and U.S. Department of Energy (DOE). FESSP consists of about 80 active projects covering the breadth of the nuclear fuel cycle. Dr. Chou was instrumental in emphasizing focus on engineered barrier philosophy in execution of the U.S. Spent Nuclear Fuel Repository at Yucca Mountain, Nevada. Recently, Dr. Chou was involved in PCAST (Presidential Committee of Advisors on Science and Technology) efforts recommending future directions for U.S. Nuclear R&D. He is currently engaged in international repository efforts and in the formulation of advanced fission concepts leading to enhanced proliferation resistance, safety, and waste management. Dr. Chou routinely interacts with senior DOE, NRC, and IAEA officials.

Societies and Committees:

Member, Pressure Vessel Research Committee
Member, American Society for Mechanical Engineers
Member, American Nuclear Society
Member, Phi-Kappa-Phi Honor Society
Certified Professional Civil Engineer, State of California